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The Developmental State and Public Participation: The Case of Energy Policy-making in Post–Fukushima Japan

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Abstract

After the Fukushima Daiichi nuclear disaster, the Japanese government tried to democratize energy policy-making by introducing public participation. Over the course of its implementation, however, public participation came to be subordinated to expert committees as the primary mechanism of policy rationalization. The expert committees not only neutralized the results of public participation but also discounted the necessity of public participation itself. This trajectory of public participation, from its historic introduction to eventual collapse, can be fully explained only in reference to complex interactions between the macroinstitutions and microsituations of Japanese policy-making at the time of the nuclear disaster: the macro-institutional reassembling of the developmental state to reallocate more power from the bureaucracy to the cabinet office and the civil society vis-à-

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vis the microsituational, shifting power dynamics involving political parties, citizens and NGOs, businesses and labor unions, and other relevant actors. This case study thus helps advance the growing science and technology studies research on how the macro and microparameters of policy-making, ranging from the durable institutions of nation-states to situationally specific political struggles, combine to shape the designs, implementations, and policy influences of public participation at particular places and times as well as in particular policy domains.

Keywords
democracy, epistemic authority, expertise, nuclear energy, political economy

While the Fukushima Daiichi nuclear disaster was still unfolding in March 2011, the Japanese government and citizens began to rethink their country's energy policy. They debated whether or not nuclear energy should be phased out, how renewable energy should be promoted, and how the electricity market should be liberalized, among many other substantive issues (Samuels 2013). More important, they debated the procedure of energy policy-making itself—how it should become more democratic, moving away from the hitherto top-down approach centered on the government. Against the backdrop of this nationwide debate, the government introduced deliberative polling and other forms of public participation in summer 2012, opening up energy policy-making to citizens on an unprecedented scale (Mikami 2015).

Nevertheless, over the course of its implementation, public participation came to be subordinated to expert committees as the primary mechanism of policy rationalization. The expert committees in the government not only neutralized the results of public participation favoring the nuclear phaseout but also discounted the necessity of public participation itself. In fact, the government even redeployed pronuclear experts to rationalize the continuing promotion of nuclear energy (Agency for Natural Resources and Energy 2014). This trajectory of public participation in post–Fukushima Japan, from its historic introduction to eventual collapse, can be fully explained only in reference to complex interactions between the macroinstitutions and micro-situations of Japanese policy-making at the time of the nuclear disaster.

Specifically, the nuclear disaster coincided, on the one hand, with the reassembling of the developmental state that had begun in the 1990s to reallocate more power from the bureaucracy to the cabinet office and the

civil society and, on the other hand, with the temporary rule of the Democratic Party of Japan (DPJ) more open to public participation than its predecessor the Liberal Democratic Party (LDP). This critical juncture created an initial, significant opening for DPJ members and citizens who wished to democratize energy policy-making in pursuit of the nuclear phaseout. Nevertheless, the opening was subsequently closed by the pronuclear wing of the developmental state that reclaimed its epistemic authority with the help of the LDP, pronuclear businesses and labor unions, and the US government. Thus, illustrating the trajectory of public participation in post–Fukushima Japan, this case study contributes to the understanding of how the designs, implementations, and policy influences of public participation are mediated by both macro and microparameters of policy-making unique to a given nation-state.

The Macro and Microparameters of Public Participation

Policy deliberation on highly technical issues has been largely dictated by experts who are defined as the bearers of relevant technical knowledge and hence authorized to make decisions on behalf of citizens. Although expert advice is useful in highly technical policy issues, it also introduces a significant power asymmetry between experts and citizens, constraining the process of democratic decision-making (Brown 2009; Fischer 2009; Turner 2003). To address and counter such epistemic inequality as a threat to democracy, however, various forms of public participation have been invented in recent decades and circulated around the world (Lengwiler 2008; Voβ and Amelung 2016). Witnessing this worldwide trend, science and technology studies (STS) researchers have also made a "public turn" to document these new "technologies" of public participation and examine their implications for science and technology policy-making, especially how public participation can help make "delegative democracy" more "dialogic" (Callon, Lascoumes, and Barthe 2009) by promoting "more meaningful interaction among policy-makers, scientific experts, corporate producers, and the public" (Jasanoff 2003, 238).

Initially, the STS research on public participation was driven by normative concerns—how to evaluate the strengths and weaknesses of various forms of public participation, such as public hearings, public opinion surveys, negotiated rule making, citizens' panels, and consensus conferences, in terms of their contributions to the democratization of science and technology policy-making (Fiorino 1990; Laird 1993; Rowe and Frewer 2000).

Accordingly, this initial research tended to focus on the processes and outcomes *internal to* different forms of public participation, bracketing history, culture, politics, the economy, and other parameters of a given polity "shaping scientific understandings and normative representational performances of its 'democratic' publics" (Wynne 2007, 99).

The latest wave of STS research, however, has begun to examine how the macroinstitutions and microsituations of policy-making mediate the designs, implementations, and policy influences of public participation at particular places and times. One strand of this latest wave emphasizes how the macroinstitutions of nation-states, such as "technopolitical cultures" (Felt and Fochler 2010) and "civic epistemologies" (Jasanoff 2005), structure the situated practices of public participation on the constitutional dimension of meaning-making. As Chilvers and Kearnes (2015, 53) suggested, these macroinstitutions, "which are grounded in public life and discourse, can help to explain how some collective participatory practices become established and others struggle to achieve relevance or become endangered in particular settings." In other words, public participation, no matter how formalized, always happens within the larger environment of science and technology policy-making unique to a given nation-state.

Another strand of the latest wave, cross-fertilizing STS with social movement studies (Frickel et al. 2010; Hess 2015), emphasizes the relevance of micro, shifting situations of policy-making, such as mobilizing structures, political opportunities, and framing processes: which design of public participation is adopted, how it is implemented, and how its outcome influences the government's policy depends on how much competing networks of stakeholders can mobilize expertise, money, and other resources for their goals, how open the political system is toward public participation, and how effectively the legitimacy of public participation is discursively framed. This strand complements the other one by foregrounding the fact that the processes and outcomes of public participation are not monocausally determined by macroinstitutions but instead contingent on their complex interactions with more micro, situationally specific dynamics of policy-making.

Specifically, these two strands together point to the existence of a feedback loop between macro and microparameters of policy-making, for macroinstitutions like nation-states are composed of microsituations, that is, interactions between humans, enabled by facilities, technologies, and other nonhumans (Callon and Latour 1981). While institutions acquire "macro-ness" through laws, facilities, and other mechanisms of power that pattern a wide range of interactions across time and space (Latour 2005), the

reproduction of macroinstitutions is in turn contingent on repeated enactment of scripted interactions and subject to contestations at the micro level (Schneiberg and Clemens 2006). Generally, macroinstitutions become "locked in" and reproduce their overall trajectories through "path dependence" (Pierson 2004), but microsituations also continuously and incrementally modify macroinstitutions through the "layering" or "grafting" of new institutional elements (Thelen 2004). In fact, "eventful" microsituations or "initially localized ruptures" can trigger drastic macroinstitutional transformations like revolutions "when a sequence of interrelated ruptures disarticulates the previous structural network" (Sewell 2005, 228).

In this sense, the design, implementation, and policy influence of public participation are caught and shaped within such a feedback loop between the macroinstitutions and microsituations of policy-making in a given nation-state. This is why the aforesaid two strands can jointly expand the STS research on public participation by taking into account both macro and microparameters of policy-making as well as their interactions.

The Institutions and Situations of Japanese policy-making

Here, I suggest that energy policy-making in post–Fukushima Japan can usefully serve as a case to illuminate how the macroinstitutions and microsituations of policy-making in a particular nation-state mediate the design, implementation, and policy influence of public participation. To begin with, the macroinstitutions of policy-making in Japan have been centered on the "developmental state." As Johnson (1999, 38) observed, the developmental state is organized around "elite state bureaucracy staffed by the best managerial talent available in the system," which deploys market-conforming interventions to develop chosen industries to become internationally competitive while transforming the structures of the national economy. This developmental state differs from its more "regulatory" counterpart often found in North America and Western Europe—the regulatory state plays the role of "umpire," setting the rules of competition in the market rather than actively intervening it with industrial policy (Woo-Cumings 1999).

Importantly, because the developmental-state bureaucracy is "composed of the nation's best and brightest, as identified by their performance in the nation's elite universities" (Loriaux 1999, 235), its orientations are predominantly technocratic and, in fact, "more technocratic than bureaucratic" with its self-assigned mission to accomplish "a fundamental transformation

of the economic order (regardless of the interests or desires of the civil society)" (Castells 1992, 57, 64). To be sure, all modern states assert their epistemic authority because the knowledge-making is integral to the state-making—knowledge of the population, the economy, and scientific and technological developments, among other things—and allows state bureaucracies to effectively formulate and implement policies (Jasanoff 2004; Mitchell 1988). However, the degree to which the developmental state claims epistemic authority is significantly higher than other types of states because of its historically distinct mission of late industrialization, wherein "the state [came] first, followed by conscious or unconscious attempts to create industry, big business . . . and then and only then 'society'" (Cumings 1999, 89).[1]

Accordingly, the modus operandi of the developmental state is the extensive use of expert committees across government ministries and agencies, whereby bureaucrats mostly bypass democratic deliberation by mobilizing experts who offer their recommendations as the rational basis of the government's policies (Iio 2007; Morita 2006; Shindo 2012). Put the other way around, the developmental state has assumed the "deficit" of relevant expertise on the part of the civil society (cf. Wynne 2007) and long excluded citizens from policy-making. As a result, most nongovernmental organizations (NGOs) in Japan have not engaged in policy advocacy but only helped the government implement its policies by mobilizing local populations (Ogawa 2009), while a small number of advocacy NGOs have been chronically short on professional staff with relevant expertise capable of challenging the government's policies (Pekkanen 2004).

The developmental state, however, is neither monolithic nor constant. Because any state is essentially composed of heterogeneous and shifting networks of actors from various domains of society, the developmental "stateness" has varied across different industries and time periods (Carroll and Jarvis 2017). Especially since neoliberalism emerged as a global ideational force of policy-making in the 1990s, the developmental state has been reshaped by the evolving competition between networks of policymakers aligned differently with neoliberalism and developmentalism (Haggard 2018); for example, agricultural, financial, postal, and other industries in Japan were deregulated during the last three decades, albeit to different degrees. Equally important, a series of political reforms have been implemented since the 1990s to consolidate ministries and agencies while reallocating more power from the bureaucracy to the cabinet office to enable more coordinated, efficient, and responsive policy-making (Prime Minister's Office 1998). The passage of the Non-Profit Organization

(NPO) Law in 1998 also significantly increased the number of NGOs that "specifically prize their independence from the bureaucracy" (Pekkanen 2004, 373).

Nevertheless, the developmental state has been particularly resilient in the domain of energy policy. Ever since the Meiji period, energy sources have been regarded as indispensable for developing Japan's industrial capacity as a means to improve the country's security and status in international society (Samuels 1994); for example, one of the main reasons Japan waged the Asia-Pacific War (1937–1945) was to secure energy sources to strengthen the industrial and military power of its empire, and the wartime government also nationalized electric power companies because energy supply became an urgent policy issue (Kikkawa 2004, chap. 4). Given this historical trajectory, even though the postwar government ceased to control the electric power industry, it continued to closely collaborate with electric power companies in energy policy-making, especially with regard to the promotion of nuclear energy (Yoshioka 2011). Indeed, the postwar developmental state was historically coterminous with "an economy mobilized for war but never demobilized during peacetime" (Johnson 1999, 41).

To be sure, bureaucrats and politicians aligned with neoliberalism tried to reform Japan's energy policy between 1994 and 2002 by liberalizing the electricity market; however, their attempt did not result in any significant reform, for the ten electric power companies wanted to maintain full-cost pricing and regional monopoly—the mechanisms that the developmental state had institutionalized in its heyday to promote nuclear energy (Kamikawa 2018, 133-37). As a result, even when the DPJ came to power in August 2009, ending the LDP's long dominance, it also supported the quintessentially developmental-statist energy policy. Specifically, the DPJ government proposed to construct fourteen new nuclear reactors in addition to the existing fifty-four to "guarantee [Japan's] energy security" and promote "all-Japan, the government-industry joint effort" for exporting nuclear and other energy technologies to developing countries (Agency for Natural Resources and Energy 2010).

At the same time, however, the DPJ adopted the "anti-bureaucracy" platform, riding on the political reforms since the 1990s, to "replace the bureaucracy-dominated politics with the politician-led politics" and "think about policy issues from the citizen's perspective" (DPJ 2009). To this end, DPJ Prime Minister Hatoyama Yukio established the expert committee on "New Public Commons" in October 2010 to explore how to promote citizens and NGOs as new actors in public management, while his government

began to deliberate on a reform of the 1999 NPO Law to expediate the certification process, expand the eligibility criteria, and increase tax benefits—namely, to provide more support for NGOs (Cabinet Office 2010, 2011). Consistent with its anti-bureaucracy and pro-civil-society orientation, the DPJ government also introduced for the first time a public hearing on the Basic Energy Plan, the most important policy document for Japan's mid-term and long-term energy policy (Institute for Sustainable Energy Policies 2014).

In short, the 2011 Fukushima nuclear disaster happened when the reassembling of the developmental state at the macro level coincided with the DPJ's temporary control of the government at the micro level. On the one hand, the DPJ government intended to maintain pronuclear energy policy within the purview of the developmental state, despite the increasing force of neoliberalism in policy-making. On the other hand, the DPJ government was critical of the long-standing dominance of the state bureaucracy as a sine qua non of the developmental state, seeking to empower politicians and citizens. Against the background of this complex and even contradictory landscape of Japanese policy-making, the nuclear disaster galvanized citizens and NGOs across Japan to join forces to demand the government should phase out nuclear energy and, more importantly, allow citizens to participate in energy policy-making; for the many citizens and NGOs felt that the disaster was ultimately caused by the government's pronuclear policy that had constantly disregarded their safety concerns (e-shift 2011; Oguma 2013). Thus, the nuclear disaster precipitated a potentially "constitutional moment" (Jasanoff 2011, 623) for public participation in energy policy-making.

Introducing Public Participation

In early April 2011, while working with Tokyo Electric Power Company (TEPCO) to contain the nuclear disaster, the DPJ government began to discuss how to reform Japan's energy policy (Asahi shinbun 2011a). In June, DPJ Prime Minister Kan Naoto, who became increasingly opposed to nuclear energy, proceeded to create the Energy and Environmental Council (EEC) to "fundamentally rethink Japan's energy policy that depended on nuclear energy for more than a half of total electricity supply" and "formulate energy and environmental strategies based on energy efficiency and renewable energy" (EEC 2011a). The creation of EEC within the cabinet office was a significant challenge to the extant procedure of energy policy-making dominated by the Ministry of Economy, Trade and Industry

(METI), especially its subsidiary Agency for Natural Resources and Energy, that had promoted nuclear energy since the mid-1950s. Such a procedural change happened primarily because Kan used various microsituational tactics to take advantage of the cabinet office's authority over the state bureaucracy at the macroinstitutional level, hoping to make best of the nuclear disaster to restore the DPJ's declining popularity and prolong his administration (Kamikawa 2018, chap. 6).

Then, in late July, EEC came up with three basic principles for subsequent policy deliberation: to find the "new best mix" of available energy sources by reducing Japan's dependency on nuclear energy, to create a "new energy system" by decentralizing electricity generation, and to promote "nationwide discussion" on Japan's energy policy, involving diverse groups of citizens and other stakeholders (EEC 2011b). The third principle was unprecedented for energy policy-making in Japan, signaling the government's intention to take seriously the demand from citizens and NGOs. Although Kan was replaced by his less antinuclear successor Noda Yoshihiko in early September 2011, the DPJ government proceeded to deliberate on Japan's energy policy according to EEC's three basic principles.

In the meantime, METI commissioned the Advisory Committee for Natural Resources and Energy (ACNRE) to revise the existing Basic Energy Plan, which had proposed to expand nuclear energy to make up 53 percent of Japan's total electricity generation by 2030, while celebrating the worldwide "nuclear renaissance" as a solution for reducing carbon dioxide emissions (Agency for Natural Resources and Energy 2010): revision of such a heavily pronuclear plan became politically necessary, as most citizens began to support the nuclear phaseout (Asahi shinbun 2011b). Since ACNRE had previously consisted of almost all pronuclear experts, handpicked by METI, to ritually rationalize the government's policy to promote nuclear energy, Kan and other DPJ Diet members sought to appoint the equal numbers of pronuclear and antinuclear experts to change the dynamics of energy policy-making (Ōshika 2013, chap. 14). Although their effort was countered by pronuclear METI bureaucrats, the DPJ government nonetheless managed to increase the number of antinuclear experts to comprise one third of the committee (ACNRE Subcommittee on Basic Policy 2011a). Most notably, the committee now included two of the most prominent antinuclear experts in Japan: Ban Hideyuki, codirector of Citizens' Nuclear Information Center, and Iida Tetsunari, director of Institute for Sustainable Energy Policies.

By newly appointing these counter-experts, the DPJ government redefined the task of ACNRE: instead of rationalizing the single best mix of energy sources, ACNRE was now asked to suggest several energy mixes in

light of diverse opinions of its members. Such diversification of possible energy mixes was a prerequisite for EEC's third basic principle for reforming Japan's energy policy—the introduction of "nationwide discussion," wherein citizens would debate which best mix they preferred most. In fact, ACNRE began to deliberate on how to design nationwide discussion at its first meeting in early October 2011, when Edahiro Junko, then director of the Institute for Studies in Happiness, Economy and Society, took the lead by suggesting the possibility of "organizing discussion among younger generations and taking their voices as feedback" (ACNRE Subcommittee on Basic Policy 2011b). Edahiro's suggestion was subsequently reinforced by Ban and Iida who argued that simply soliciting opinions from citizens in the form of "public comments" would be inadequate; instead, "public debates across Japan" and "a wide variety of public discussions in the spirit of deliberative democracy" would be crucial if energy policy-making were to be meaningfully opened up to citizens (ACNRE Subcommittee on Basic Policy 2011c, 2011d).

In early 2012, ACNRE accelerated its deliberation on the form of public participation to meet the timetable set by EEC. To assist ACNRE's deliberation, Edahiro submitted a memo listing various forms of public participation that Japan could borrow from other countries, such as deliberative polling and consensus conference (ACNRE Subcommittee on Basic Policy 2012a) and, at subsequent committee meetings, deliberative polling emerged as the most promising form of public participation. This was because committee members agreed with available academic research showing that deliberative polling would reflect public opinions more accurately than traditional polling and town-hall meetings, on the one hand, and would allow more active participation from citizens than public comments, on the other hand (ACNRE Subcommittee on Basic Policy 2012b, 2012c). Concurrently, to provide a focal point for nationwide discussion, ACNRE narrowed down possible scenarios for Japan's energy mixes in 2030 as follows: (1) nuclear-free, (2) 15 percent nuclear, (3) 20-25 percent nuclear, and (4) the energy mix should be determined by the market.

In light of ACNRE's recommendation, in late June 2012, the DPJ government decided to use deliberative polling, as well as public comments and public hearings, as the forms of public participation in nationwide discussion on energy policy. The government also decided to organize nationwide discussion around three energy-mix scenarios for 2030: nuclear-free, 15 percent nuclear, and 20-25 percent nuclear (EEC 2012a). Thus, in the aftermath of the nuclear disaster, the DPJ government reformed the procedure of energy policy-making—hitherto dominated by the developmental

state and its pronuclear experts—by introducing public participation to enable citizens to deliberate on multiple scenarios of Japan's future energy mix.

At first glance, the DPJ government's decision to introduce public participation at the national level signaled a significant departure from the modus operandi of the developmental state that had assumed an epistemic deficit on the part of the civil society. At the same time, although the DPJ government created the three energy-mix scenarios for 2030, the majority of METI bureaucrats, ACNRE members, and DPJ ministers already supported the 15 percent nuclear scenario as a compromise between the two other ones (Ōshika 2013, 579-83). This is because the DPJ government considered the nuclear-free scenario economically infeasible, given the significant weightage of nuclear energy in the pre-Fukushima energy mix, and the 20-25 percent nuclear scenario politically infeasible because this would entail the construction of new nuclear reactors to replace the aging ones. For the DPJ government, then, the 15 percent nuclear scenario was both economically and politically the safest because it could be accomplished simply by phasing out the existing nuclear reactors when they would reach the legally binding age limit. This was why Edahiro, who had advocated public participation together with Ban and Iida, feared that the upcoming nationwide discussion, historic as it may be, would end up being treated as "a performance" to simply create the impression that energy policy-making became more democratic (ACNRE Subcommittee on Basic Policy 2012d).

Negotiating the Results of Public Participation

The three forms of public participation—public comments, public hearings, and deliberative polling—were implemented between July and August 2012. First, 89,124 public comments were submitted between July 2 and August 12: about 81 percent of them supported the immediate nuclear-free scenario, and about 9 percent the gradual phaseout of nuclear energy (Asahi shinbun 2012a). Second, the government held eleven public hearings across Japan between July 14 and August 4. Among 1,447 people who expressed their opinions at public hearings, 68 percent supported the immediate nuclear-free scenario, and 11 percent supported the reduction of nuclear energy to 15 percent by 2030 (Asahi shinbun 2012a). Third, the government organized a two-day deliberative polling in early August. Prior to this two-day event, the government had conducted a conventional polling with randomly selected 6,849 people. Then, within this pool, 285 people

volunteered to participate in deliberative polling (see Mikami 2015, for detailed discussion of the procedure.) After two days of deliberation, the percentage of those who supported multiple scenarios or none decreased significantly. Instead, those who supported the nuclear-free scenario increased from 32.6 to 46.7 percent, whereas those who supported the 15 and 25 percent nuclear scenarios, respectively, decreased from 18.2 to 15.4 and remained 13.0 (Cabinet Secretariat 2012a).

The results encouraged antinuclear NGOs and also prompted Ban and Iida, together with members of the Japan Federation of Bar Associations, to launch the Nationwide Network for the Nuclear Phase-Out Law, lobbying Diet members to legislate the national goal of phasing out nuclear energy by 2025 (Datsugenpatsuhō Seitei Nettowāku 2012). By contrast, the results of public participation surprised the DPJ government that had expected the majority of participants to prefer the 15 percent nuclear scenario (Asahi shinbun 2012b). In fact, pronuclear METI bureaucrats were critical of the nationwide discussion, calling it "populism" inappropriate for deliberation on "such an important policy issue" (quoted in Ōshika 2013, 592). Thus, to interpret the surprising results of public participation to its advantage, the government hurriedly set up a new expert committee to "rationally accept the results of nationwide discussion" by taking into account "the limitations of the methods of public participation [i.e. public comments, public hearings, and deliberative polling]" (Asahi shinbun 2012c) in addition to the existing committee specifically tasked to evaluate deliberative polling.

To begin with, the existing committee criticized the implementation of deliberative polling for "being too rushed" and faulted it for causing various problems that undermined the validity of the results; the committee then concluded that "the results of deliberative polling are only one of many factors of policy decision . . . and the government's final decision may well be different from them" (Independent Investigative Committee on Deliberative Polling 2012). This recommendation, to decouple the results of public participation from policy decision, was reinforced by the new expert committee that examined the results of nationwide discussion as a whole. Although committee members hailed the historic significance of public participation at the national level, they also feared that citizens had not been adequately informed of what had been at stake in Japan's energy policy; for example, Kobayashi Tadashi and Sato Takumi, professors at Osaka and Kyoto Universities, respectively, differentiated "ill-informed public sentiments" and "well-informed public opinions" and argued that the nationwide discussion had reflected the former, rather than the latter, due to various biases in the design and implementation of public

participation (EEC Investigative Committee on Nationwide Discussion 2012).[2] In the end, the committee concluded that, even though the majority of citizens preferred a nuclear-free society, they had divergent opinions on the manner and pace of nuclear phaseout (EEC 2012b).

The results of public participation were not only neutralized by the expert committees but also strongly objected by the three largest business interest groups—Japan Business Federation, Japan Chamber of Commerce and Industry, and Japan Association of Corporate Executives. In their policy recommendations, the three interest groups supported 20-25 percent nuclear as the only realistic energy-mix scenario and pressed the DPJ government to promote nuclear energy, emphasizing its indispensable role in securing the "stable and economical supply of energy" for both businesses and citizens (Japan Association of Corporate Executives 2012; Japan Business Federation 2012a; Japan Chamber of Commerce and Industry 2012). Similarly, the Japanese Trade Union Confederation, one of the major DPJ supporters, opposed the nuclear phaseout because its major constituent organizations were pronuclear (Kamikawa 2018, 225-30). In particular, the Federation of Electric Power Related Industry Worker's Unions of Japan actively lobbied DPJ Diet members to support nuclear energy, distributing a memo explaining how the nuclear-free scenario would significantly increase the price of electricity and threatening to withdraw its support from them if they advocated the nuclear phaseout (Ōshika 2013, 599).

Neither did the US government—Japan's most important ally—welcome the nuclear phaseout, for it had concerns for the American nuclear industry that had benefited from extensive collaborations with its Japanese counterpart since the 1960s. General Electric and Westinghouse Electric Corporation, for example, had helped TEPCO and Kansai Electric Power Company build the first nuclear power plants in Japan, including the one that caused the 2011 nuclear disaster, and continued their partnerships with Hitachi, Mitsubishi, Toshiba, and other Japanese companies (Yoshioka 2011, chap. 4). Equally important, the US government was afraid that Japan's nuclear phaseout would cause a security problem regarding the Non-Proliferation Treaty vis-à-vis the US-Japan Nuclear Cooperation Agreement. Because Japan was the only nonweapons country possessing major fuel reprocessing facilities that could be used to develop nuclear bombs, what Japan might do with its facilities and spent nuclear fuels, if it phased out its civilian nuclear program, was concerning to the US government (Arima 2012; Ōta 2015). For these economic and security reasons, several high-ranking officials of the US government, including the

Secretary of State Hilary Clinton, cautioned the DPJ government against the nuclear-free scenario (Asahi shinbun 2012d; Iida 2017, 75).

Given these contradictory demands from citizens and NGOs, businesses and labor unions, and the US government, EEC members engaged in a heated debate. The minority of EEC members, including the chairman Furukawa Motohisa, sought to adopt the nuclear-free scenario as the government's policy, partly because they championed the nationwide discussion as an exemplar of democracy and partly because they thought the nuclear phaseout would help the DPJ win the next election; however, they were eventually outpowered by the majority of EEC members, DPJ ministers, and METI bureaucrats who advocated maintaining nuclear energy (Ōshika 2013, chap. 20). As a result, although EEC (2012c) recommended that the government should mobilize "all available policy resources" to go nuclear-free in the 2030s, it also recommended the promotion of nuclear energy by maintaining the existing nuclear fuel cycle to reprocess spent nuclear fuels and exporting Japan's nuclear technologies to other countries. After all, instead of officially accepting EEC's recommendation, the DPJ government simply issued the following short statement in September 2012 without committing Japan's energy policy to any of the three energy-mix scenarios that citizens had deliberated on: "To formulate new energy and environmental policies, we will take into account EEC's recommendation, conduct responsible discussion with relevant municipalities and international society, and obtain support from citizens, while maintaining flexibility and constant self-examination" (Cabinet Secretariat 2012b).

Given the DPJ government's ambiguous policy position, ACNRE Chairman Mimura Akio, president of Nippon Steel Corporation, proposed to suspend deliberation on the next Basic Energy Plan until the government would clarify its policy position on nuclear energy (ACNRE Subcommittee on Basic Policy 2012e). His proposal was supported by METI, the secretariat of ACNRE. METI was in no hurry to reform Japan's energy policy because a general election was expected soon; as public support for the DPJ government was dipping due to its unpopular decision to raise consumption tax (Y. Kobayashi 2012), METI anticipated that the LDP, a political party that had initiated and promoted Japan's civilian nuclear program since 1950s, would return to power and reverse the energy-policy reform that the DPJ government had initiated (Asahi shinbun 2012e).

Thus, the policy influence of the historic public participation in summer 2012 was mixed. The pronuclear wing of the developmental state made use of the two expert committees to neutralize the results of public participation and decouple them from the final policy decision to be made by the

government. The developmental state's reassertion of its epistemic authority was possible thanks to the pronuclear businesses and labor unions, as well the US government, pressuring the DPJ government to maintain nuclear energy. Nevertheless, the pronuclear wing could not afford to completely ignore the majority of citizens favoring the nuclear phaseout. Thus, public participation did influence energy policy in post–Fukushima Japan, even though its influence was significantly curtailed. The question was whether the policy influence of public participation would persist or fade after the upcoming general election.

Reversing Public Participation

As anticipated by METI, the LDP won the general election in December 2012. The LDP's return to power was welcomed by electric power companies and other businesses that had been frustrated with the DPJ's handling of energy policy (Asahi shinbun 2012f, 2012g). Soon after the LDP formed a coalition government with Kōmeitō, LDP Prime Minister Abe Shinzō criticized the DPJ for having pursued the nuclear phaseout "without any concrete basis and, as the result, caused anxiety and mistrust among host municipalities . . . international society and the business community, and citizens" (House of Representatives 2013). As a first step to reverse the DPJ's energy-policy reform, the LDP-Kōmeitō government downsized ACNRE from twenty-five members to fifteen, removed Ban, Edahiro, Iida, and other members who had advocated public participation and appointed thirteen pronuclear experts (ACNRE Subcommittee on Basic Policy 2013a).

Given its new member composition, ACNRE proceeded to draft a new Basic Energy Plan by emphasizing the importance of nuclear energy. At the committee meeting in October 2013, for example, Nishikawa Kazumi, governor of Fukui Prefecture hosting more than a dozen of nuclear reactors, argued that the new Basic Energy Plan should clearly maintain the existing nuclear fuel cycle. Nishikawa's pronuclear position was supported by Yamana Hajimu, professor of nuclear engineering at Kyoto University, who warned that "it is dangerous to rapidly decrease the degree of nuclear dependency, given the amount of time and investment, as well as associated risks, in securing alternative energy sources . . . . We should continue to designate nuclear energy as a key energy source" (ACNRE Subcommittee on Basic Policy 2013b). These pronuclear comments led Tatsumi Kikuko, one of the two antinuclear committee members, to lament, "It sounds as though there were no room for critical discussion . . . [and] last year's

nationwide discussion—the voice of citizens against nuclear energy—has so far been ignored in our deliberation" (ACNRE Subcommittee on Basic Policy 2013b).

Then, in December 2013, ACNRE produced a draft of the new Basic Energy Plan, designating "3E + S" ("energy security, economic efficiency, and environment plus safety") as the overall framework for Japan's new energy policy. Within this framework, nuclear energy was defined as "an important baseload energy source that Japan will continue to take advantage of" because it was "stable and cheap as well as helpful in reducing carbon dioxide emissions," while renewable energy was regarded as promising but "faced with various challenges in terms of stability and costs" (ACNRE Subcommittee on Basic Policy 2013c). Thus, under the LDP-Kōmeitō government, ANCRE re-legitimated nuclear energy by disregarding the 2012 nationwide discussion.

In response, Citizens' Committee on Nuclear Energy (2013), a new umbrella organization for antinuclear and environmental NGOs, criticized ACNRE's draft Basic Energy Plan for ignoring the results of public participation and downplaying various disadvantages of nuclear energy. The nonpartisan Nuclear-Free Association, consisting of sixty-four National Diet members, also issued a statement demanding that the new Basic Energy Plan should adopt the nuclear phaseout as Japan's official policy. Specifically, the association emphasized that "since citizens are the sovereign in energy policy-making, their expressed wish for a nuclear-free society should be respected" (Nuclear-Free Association 2014). In addition, Friends of the Earth Japan and its allies (2014) questioned why the LDP-Kōmeitō government planned only one round of public comments on the draft energy plan this time, arguing that such a superficial form of public participation would regress greatly from the 2012 nationwide discussion and that more meaningful forms of public participation should be reinstated.

Nevertheless, the LDP-Kōmeitō government organized only one round of public comments between December 2013 and January 2014, as originally planned, by stating that "no law requires the government to consult with citizens on the Basic Energy Plan"—hence even one round of public comments should be more than enough in light of the legal requirements (METI 2014). Moreover, in response to 18,711 public comments submitted on a draft of the New Basic Energy Plan, about 94 percent of which opposed nuclear energy (Komori 2016, 82-89), the government made mostly stylistic changes and proceeded to finalize the draft in April 2014. The new Basic Energy Plan thus emphasized the increasing vulnerability of Japan's energy security "in the midst of ongoing large-scale geopolitical changes" and

warranted the promotion of nuclear energy as a "stable and cheap supply of energy" for sustaining Japan's economic recovery (Agency for Natural Resources and Energy 2014). Equally important, the new Basic Energy Plan discounted the necessity of public participation in energy policy-making by describing citizens as passive audiences who needed to "deepen their understanding of the real situations concerning energy," on the one hand, and encouraging the government to use more effective "public relations" and "education" to help citizens "increase their trust in energy policy," on the other hand (Agency for Natural Resources and Energy 2014). As Suzuki (2017, 89), a member of the Atomic Energy Commission, later observed, the LDP-Kōmeitō government "aborted . . . and even reversed the reform of energy policy-making."

Such a dramatic reversal in the trajectory of public participation under the LDP-Kōmeitō government was possible because the LDP had been a key member of the "nuclear energy village" (Funabashi 2012), a network of actors in national and municipal governments, nuclear-related industries, and other sectors of society; for example, from the mid-1950s onward, the LDP government had created laws and policies, such as full-cost pricing and regional monopoly in electricity generation and transmission, to ensure the profitability of nuclear energy, while electric power companies in turn used their profits to make huge monetary contributions to LDP politicians and create lucrative advisory positions for retired bureaucrats from energy-related ministries and agencies (Komatsu 2012). In fact, after the LDP ousted the DPJ, the LDP-Kōmeitō government facilitated the restart of Units 1 and 2 at Sendai Nuclear Power Plant, the first nuclear reactors to be restarted under the new regulatory framework, while accelerating the negotiations of nuclear energy cooperation agreements with United Arab Emirates, Turkey, India, and other countries—as part and parcel of Japan's "economic growth strategy" (Watanabe et al. 2014). In short, the developmental state's reassertion of its epistemic authority in energy policy-making was reinforced by the LDP's enduring support for the political economy of nuclear energy.[3]

Conclusion and Implications

The foregoing analysis has shown that public participation in energy policy-making in post–Fukushima Japan went through three stages—introduction, negotiation, and reversal. First, in response to the growing nationwide anti-nuclear movement, the DPJ government introduced public participation on an unprecedented scale in the forms of public comments, public hearings, and deliberative polling. Such introduction was possible because the

institutionally increased power of the cabinet office combined with the DPJ's anti-bureaucracy and pro-civil-society orientation. Second, although these forms of public participation were implemented as part of the nationwide discussion in summer 2012, their results, favoring the nuclear phase-out, had only limited influence on the DPJ government's energy policy because of the resistance by the pronuclear wing of the developmental state aligned with the pronuclear businesses and labor unions as well as the US government. Finally, after the LDP ousted the DPJ in December 2012, the developmental state redeployed pronuclear experts to draft the new Basic Energy Plan, not only disregarding the results of public participation but also discounting the necessity of public participation. Thus, Japan's historic experiment with public participation not only failed to produce any lasting policy influence but also triggered the counterattack from the developmental state.

This trajectory of public participation in post–Fukushima Japan was not a foregone conclusion but a contingent outcome of complex interactions between the macroinstitutions and microsituations of policy-making specific to contemporary Japan, that is, the macroinstitutional reassembling of the developmental state since the 1990s vis-à-vis the microsituational power dynamics between the pronuclear and antinuclear members of the DPJ and the LDP aligned differently with citizens and NGOs, businesses and labor unions, and other relevant actors. Thus, this case study helps advance the growing STS research on how the macro and microparameters of policy-making, ranging from the durable institutions of nation-states to situationally specific political struggles, together mediate the designs, implementations, and policy influences of public participation at particular places and times as well as in particular policy domains.

Equally important, this case study helps reframe the initial normative concerns of the public turn, suggesting how and why the possible, desirable, and efficacious forms of public participation might differ among nation-states. In a way, the trajectory of public participation in post–Fukushima Japan demonstrated that "the formal mechanisms [of public participation] adopted by national governments are not enough . . . . What has to change is . . . the substance of participatory politics" within an entire polity (Jasanoff 2003, 238). Since public participation is always articulated with the existing institutions and situations of policy-making, an answer for the normative question "Which form of public participation should be adopted, and how?" is bound to vary across nation-states.

This contextual thinking also complicates the task of normatively driven evaluation of "success" or "failure" of public participation, helping the STS

research on public participation become more aware of the heterogeneous institutions and situations of policy-making in different nation-states rather than imposing "best practices," often conceived in North America and Western Europe, on the rest of the world (Anderson 2017; Wynne 2007). When the Japanese context is taken into account, the introduction of public participation, especially deliberative polling, by itself can be seen as already a "successful" precedent in the democratization of science and technology policy-making (T. Kobayashi, Yagi, and Yamauchi 2014), quite apart from the evaluative criteria borrowed from North America and Western Europe. Indeed, such contextual thinking ultimately foregrounds the performative role of STS researchers (Felt 2003) in the making of "successful" and "failed" cases of public participation. For example, if "success" is defined in terms of "upstream engagement" or "the macro-political uptake of mini-publics" (Goodin and Dryzek 2006), public participation in post–Fukushima Japan will be viewed as a "failure" because it was designed top-down and had little policy influence. By contrast, if "success" involves a "good experiment . . . where surprise occurs" (Gomart and Hajer 2003, 40), the same event can be seen as a "success" because its implementation produced the surprising results for the status quo.

In this regard, STS researchers can never remain neutral observers because, intentionally or not, their analyses provide policymakers and citizens with rationales for justifying their positions on public participation—and this realization demands greater reflexivity on the part of STS researchers to be more sensitive to different histories, cultures, and political economies of policy-making around the world.

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Notes

1. This history of modern Japan suggests an important role of the education system in establishing the developmental state's epistemic authority in policy-making. For example, the Meiji government conceived of the university as the provider of technically competent bureaucrats, mainly in the area of engineering and law, who could build both hard and soft infrastructures of the modern state (Nakayama 1978). Since then, Japan's state bureaucracy has been consistently dominated by graduates of prestigious universities who assume their epistemic authority to make policy decisions on behalf of citizens. This line of inquiry, probing the intersection of science and technology studies (STS) and educational research, seems promising, but it is beyond the scope of this paper.
2. To date, STS researchers at Osaka University (T. Kobayashi, Yagi, and Yamauchi 2014) have produced the most comprehensive review of the 2012 nationwide discussion. Their review shows that the expert committees were genuinely concerned that public participation had been hastily designed and implemented, and that its results were too complex to permit clear-cut conclusions, apart from the intention of pronuclear Ministry of Economy, Trade and Industry bureaucrats to oppose the nuclear-free scenario.
3. At the same time, the Liberal Democratic Party (LDP) has a complex and evolving relationship with the developmental state; for example, after ousting the Democratic Party of Japan, the LDP-Kōmeitō government both promoted nuclear energy (developmentalism) and liberalized the electricity market (neoliberalism), all the while relying heavily on expert committees in policy rationalization (Watanabe et al. 2014).

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